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Health, Government, and the Poor

The Case for the Private Sector

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Selective user fees and privatization could be used to reduce government spending on health care for the rich and middle classes, permitting redirection of government spending to programs that would benefit the poor, thus producing the highest mortality gains.

This paper — a product of the Country Economics Department — is part of a larger effort in the department to assess the implications of greater involvement of the private sector in the delivery of social services. It will be included in the forthcoming Policy and Planning Implications of the Epidemiological Transition (proceedings of a November 1991 workshop), edited by James Gribble and Samuel Preston. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Soledad Rothschild, room N11-051, extension 37460 (July 1992, 31 pages).

Birdsall and James present a case for (limited and selective) user charges and some privatization of health care in developing countries.

They demonstrate that — consistent with public choice theory — government actions in the health sector are neither equitable nor efficient in developing countries. In general, they increase the real income of influential middle and upper income groups — despite the fact that the greatest mortality gains would come from directing health spending to the poor.

Then they discuss why — if this implicit model of government behavior is correct — government health interventions will become less effective than they have been.

They point out that high mortality in developing countries is related more to poverty than it used to be, while pressure on governments to finance health care for the middle class and the rich is increasing because the population is aging and the costs of handling adult chronic diseases are rising.

The inequity and inefficiency of government health programs reflect the current political equilibrium which, unfortunately, cannot be easily changed. Opportunities for change, including marginal changes in the distribution of political power, must be recognized and exploited whenever they arise. Information that increases public awareness of current inequities, fiscal stress, and tactical use of newly available resources may also create opportunities to alter the equilibrium.

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HEALTH, GOVERNMENT AND THE POOR:

THE CASE FOR THE PRIVATE SECTOR

By

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An important current issue in the health sector in developing countries concerns the appropriate degree of reliance on the private sector and on private spending for the provision of health care. Proponents of user charges and greater privatization claim that these will conserve scarce public funds and promote efficiency in the sense of cost-effectiveness and responsiveness to consumer preferences (Akin, Birdsall, and de Ferranti, 1987; Jimenez, 1987). Opponents retort with two arguments. First is an efficiency and effectiveness argument: that in the past in developing countries, the public sector has been successful in health. Second is an equity argument: that because of their reliance on ability to pay as a rationing criterion, user charges for public services and privatization will have negative distributional effects that are likely to outweigh any efficiency gains (e.g., see Gertler et al, 1987, and Gertler and van der Gaag, 1988 on user charges for health care in Peru and Cote d'Ivoire).

In this paper, we argue that neither argument is correct given current and likely future trends -- and that there is a case for limited and selective use of user charges and privatization of health in most developing countries. In Section I we set forth a brief statement of public choice theory, which predicts that, in general, government actions may be neither efficient nor equitable. Instead, they may be directed toward increasing the real income of influential middle and upper income groups, often in inefficient ways. Section II draws, as a central point of this paper, an important corollary of public choice theory for the health field: that the past successes of the public sector are not likely to be repeated in the future. The reason is an increasing tension between the health needs of the rich versus the poor, with the greatest potential mortality gains coming from attention to the latter but political forces often dictating a flow of resources to the former. Part III provides numerous examples of this misallocation and suggests ways that selective use of fees and privatization may improve equity, efficiency and returns to future public health spending.

In the conclusion, we summarize the crux of the political economy problem brought out in the earlier sections. If the inefficiency and inequity

of government health programs are endogenous and politically determined, how can they be fixed? How do we break into the chain of causation and bring about a new equilibrium, more efficient and more redistributive, when this was apparently not in the interest of the main actors, or it would already have happened?

I. Why is Government Health Spending Both Inefficient and Inequitable?

Why are governments often inefficient and inequitable? This section contrasts a normative (welfare theory) and positive (public choice theory) approach to government behavior, and argues that the pessimistic conclusions of the latter are most applicable to developing countries. The following section extends public choice theory to the health sector in developing countries and shows how it implies a deteriorating effectiveness of government spending, a need to place greater reliance on private spending, in order to improve both efficiency and equity.

Welfare Theory vs. Public Choice Theory

Classical welfare theory gives us a normative view of what government should do. The main economic role of government is to correct market failure by funding public goods, by subsidizing (or taxing) goods that generate (positive or negative) externalities, by compensating for capital market or insurance market failure, and otherwise simply to set the framework within which private enterprise will function.¹

With respect to distribution, the "maximum" point of social welfare is acknowledged by most economists to depend on equity as well as efficiency. Opinions vary widely on whether a "social welfare function" exists, what an "equitable" distribution would be, and whether it is possible

¹ When efforts of government to correct for market failure in themselves introduce some efficiency losses -- because of transaction costs or the distortionary effects of taxes -- we are operating in a second-best world in which the benefits of intervention must be weighed against the costs. But much of classical welfare theory can nevertheless be depicted as a pursuit of the first-best.

to aggregate diverse preferences to get a consensus on this matter.² However, despite this ambivalence about the redistributive role of government, most economists agree that, if there is to be any redistribution, it should be from rich to poor and not vice versa -- the "Robin Hood" function of government (Birdsall, 1992). We use the term "equity" as shortened for Robin Hood redistributions in the paper.

A second, more recent and less benevolent view of government activities stems from public choice theory, which gives us a positive model of what the government will do, under the presumption that the chief agents act to maximize individual utility rather than social welfare. According to this theory, politicians do not seek to maximize efficiency but rather to maximize their own chances of staying in power; bureaucrats seek to maximize their budgets; and individuals use governments to augment their real income via the creation of protected market positions and the direct provision of services and transfers.³

Politicians and political parties have some discretionary power because of barriers to entry and because they are in a position to shape as well as respond to people's tastes. At the same time, threats from actual or potential competitors limit the scope of their monopoly power. Thus natural

² A vast literature has developed on the question of whether actual compensation or simply the potential for compensation should be used to compare the relative desirability of two alternative allocations. In the later+ case distribution is essentially deemed as irrelevant, while in the former case the nature of compensatory mechanisms is crucial. Opinions vary on how much the government should intervene to alter the market distribution (see Rawls, 1971 and Nozick, 1974 for strongly contrasting views). The strongest advocates of redistribution argue that it is justified on efficiency as well as equity grounds -- if people care about the utility of others or if there exists a set of "merit goods" (health, education) about which society does not trust consumers to make the "right" consumption decisions (Meade, 1964; Musgrave, 1959; Hochman and Rogers, 1969). Skeptics point to the lack of consensus on the desired distribution and to the disincentive effects of redistribution. Bourguignon, 1989, for example, sets out a model in which the pursuit of equity, through education and health programs that build human capital or through transfer programs such as food subsidies for the poor, requires that governments generate tax revenues, which reduce overall efficiency.

³ For fuller summaries of public choice theory see Mueller, 1979 and Borcharding, 1985.

selection operates in political life as well as in economic or biological life. Viewing the entire spectrum of issues, among which different groups of voters have different trade-offs, politicians who survive to make policy are those who assess these trade-offs correctly and give influential groups what they want on issues that are most salient to them. Where democracy does not exist, a similar process often occurs, but with greater discretionary monopoly powers for government officials who control the political market.

Public policies designed to maximize private interests will not necessarily be inefficient. Indeed, politically influential groups would have a potentially larger pie to capture if the Pareto frontier were reached; compensatory mechanisms could then make everyone better off. Taxes could be imposed on some (less influential groups) and transferred to others.

However, the allocation of resources resulting from public choice politics often is inefficient, for the following reasons:

1. Veil of ignorance. In a context of imperfect information, people may not know the degree and direction of redistribution going on. If well-defined groups know they are "losers" they are more likely to mobilize and foment opposition to existing policies; therefore the "gainers" benefit from perpetuating a "veil of ignorance." Suppose that the most efficient form of transfers is also more obvious (e.g. transfers in cash are more transparent than those in kind). In that case, efficiency imposes cost to the "gainers" by reducing the amount they will be potentially able to extract; they are therefore likely to choose inefficient transfer mechanisms. Most commonly, some private goods may be publicly provided and oversupplied because they benefit a politically influential group of people in a non-obvious way (see Becker, 1983 and Borchertding et al., 1983).

2. Fiscal illusion. Our second point is closely related: Imperfect information and uncertainty also surround the relationship between the tax structure and the bundle of public services provided. While these may be interdependent components of a long run political equilibrium (e.g. if the benefits of a group rise, its tax burden may also rise), taxes and services

may appear to be independent of each other in the short run -- a kind of "fiscal illusion." In that case, some public or quasi-public goods may be undersupplied because their benefits accrue to dispersed, less influential individuals, and it is not clear (to the influential "loser") that the tax share of the gainers can be adjusted upward commensurately with their benefits. Similarly, some goods may be oversupplied because their chief beneficiaries are politically powerful, and these groups expect to avoid much of the tax burden.⁴

3. High costs of public sector provision. The real costs of publicly-produced private goods may be above minimal levels, because government imposes bureaucratic rules and red tape (in part as a substitute for the profit motive) and often lacks competitive pressures for internal efficiency (perhaps because politicians reap a surplus from monopolistic provision). Heads of bureaucratic agencies who wish to maximize their prestige and perks, and have greater information than the politicians and citizens they supposedly serve, are often able to argue successfully for larger budgets than are needed for least-cost production. In addition, distortionary tax financing also raises the non-program costs of publicly-produced private goods (Niskanen, 1971; Romer and Rosenthal, 1978; Borcharding, Pommerehne and Schneider, 1983).⁵

4. Rent-seeking. The diversion of entrepreneurial energies toward extracting a surplus from public agencies rather than toward productivity-enhancing market activities also impedes private sector efficiency and growth.

⁴ For an early statement of the fiscal illusion argument, see Buchanan, 1967; for a more recent review, see Pommerehne and Schneider, 1978.

⁵ Program costs may exceed minimal levels even when politicians and bureaucrats wish to choose an efficient product and factor mix. The non-price rationing which often exists for distributional reasons under public funding, and the civil service procedures governing wages, hiring and firing procedures which substitute for managerial discretion under public production, mean that prices do not serve as a measure of the real benefits and costs of a program, as they do in the private market.

Rent-seeking activities thus misallocate private as well as public resources (Krueger, 1974; Buchanan, Tollison and Tullock, 1980).

The resulting distribution of real income is likely to depend upon political power as well as market power. Political power, of course, will vary across societies and through time depending on the size of different producer and consumer groups, the coalitions among them, and the long run "rules of the game" that have been set up (e.g. through constitutions) for allocating voting rights. Given that the distribution of voting rights is ordinarily more equal than the distribution of income, one might expect political decision-making to be relatively egalitarian.⁶ However, low income people often do not vote and economic power can also buy political power, as through campaign contributions and purchases of media influence that shape other people's votes. Since producer groups are likely to be more concentrated and better organized than consumer groups, since upper and middle income groups are generally more articulate and politically active than poorer groups, and since lines of communications and mobility often are strong between government agencies, their bureaucratic chiefs, and the private industries or professions they supposedly regulate, public choice theory predicts that producer and upper income groups will benefit disproportionately from implemented government policies (see Stigler, 1970, 1971; Peltzman, 1976, 1980; Fiorina and Noll, 1978).

Public Choice in Developing Countries

How could we expect these divergent forces to sort themselves out in the developing country context? On the one hand, the gulf between rich and poor and the relative number of poor people are much greater there, so under "one man, one vote" we would expect to find the poor gaining from politically induced redistributions. Indeed, in a few countries (e.g., Malaysia) an economically disadvantaged group has effectively used its political advantage

⁶ Thus, Meltzer and Richard (1978, 1981) have argued that redistribution is likely to flow to the median voter whose income is generally less than average, and Demsetz (1982) ties this tendency to the extension of the franchise.

to increase its share of the national income. However, differences in education, hence in organizational and communication skills, are also much greater in developing countries, and democratic institutions are often primitive, limiting the power of the poor. We would expect the latter tendency to dominate in most cases.

This is not to say that there will be no redistribution to the poorer classes. In fact, even when the rich are in control we would expect to find some such redistribution of income. For example, people voluntarily donate to beggars and use the government as an efficient mechanism for donating to disadvantaged groups, in part because the extremes of poverty and socioeconomic immobility raise fears of crime or revolution which will ultimately hurt the rich. In developed countries, historically, the provision of certain merit goods to the poor (e.g., basic health and education services, social insurance) has been viewed as an effective way to combat these problems.

In addition, in developing countries, where there are many more poor people than rich, the desire to constrain the popularity of opposition groups encourages some distribution to lower income groups on grounds of expediency. Out-of-power groups must be appeased by giving them "just enough" to prevent opposition parties from gaining strong support (a "contestable market" view of political equilibrium). But "just enough" may not be very much. For example, it may imply that the poor are given large amounts of low cost services or are given very limited access to high cost services from which the rich are the main beneficiaries. Governmental expenditures on high quantity, low quality primary level school systems and on selective high cost universities are common illustrations of these two phenomena.

In short, in many situations, perverse distributional rather than efficiency or equity criteria determine the allocation of government funds, and these criteria imply large benefits to powerful upper income groups,

combined with small redistributions to the poor.⁷ We believe these pessimistic predictions of public choice theory are consistent with the observed actions of developing countries in health today.

II. Future Effectiveness of Government Spending on Health

There is little doubt that governments have played a major role in bringing about extraordinary postwar mortality decline and the accompanying improvements in health in developing countries (see Table 1) -- most obviously through direct interventions such as immunizations and malaria control, but also through more general public investments in education, sanitation, and improved communications and transportation, which have reduced the mortality toll once taken by limited information and periodic famine.⁸

Can the past success of governments in reducing mortality and improving health be maintained? In this section we argue that, on grounds of public choice theory, there are strong reasons for doubt about the future contribution of government. Past gains have come from expenditures that benefitted a wide spectrum of the population. But future gains will require additional expenditures targeted toward the poor, behavioral changes among the poor, and, indeed, the elimination of some aspects of poverty. But, for the very reasons given above in Section I, governments are unlikely to spend disproportionately on the poor, and the behavior of the poor is unlikely to change rapidly; hence the gains of the past are unlikely to continue in the future, if the burden remains on government's shoulders.

This tension between rich and poor is exacerbated by the tension between old and young. As the population ages, its disease profile changes; the prevalence of cancer, heart disease and other diseases of adulthood and old

⁷ For this result with respect to public expenditures on education in Brazil, see Behrman and Birdsall, 1988.

⁸ See Birdsall, 1989 for discussion, data and citations on this point.

age increases.⁹ These are expensive diseases to treat, requiring hospitalization and modern technology, in comparison to the relatively low cost of inoculating children against measles and polio.¹⁰ This fact alone would tend to reduce the rate of return to public health expenditures, unless these continue to be spent on preventing diseases of the young and are not heavily siphoned off to treating diseases of the old.

But public choice theory again tells us that this is unlikely to be the case: Children do not vote or make political contributions, as older people do. Moreover, their parents come disproportionately from lower income groups (where birth rates are higher), while people who live to adulthood and old age come disproportionately from middle and upper income groups (where life expectancy is longer, in part because they have enjoyed better health care).¹¹ Thus, the latter are likely to win in the competitive struggle for public health resources against the children and their parents. While this scenario applies to some developed countries, it also gives us another powerful reason for predicting that the past successes of the government in

⁹ Feachem et al. (forthcoming) provide an assessment of how to meet the health needs of adult populations in developing countries.

¹⁰ This is not to say that the cost-effectiveness of treating all childhood diseases is higher than the cost-effectiveness of treating all adult diseases. Jamison and Mosley (1991) point out that among the most cost-effective interventions in developing countries are such adult health interventions as anti-smoking campaigns plus tobacco taxes, passive case finding and short-course chemotherapy for tuberculosis, and use of condoms to prevent HIV transmission. However, because many other adult health interventions are so costly, and given the increasing burden of chronic diseases as populations age, the authors also note that this increasing burden is "initially likely to affect the relatively more affluent and politically vocal older groups who are growing in numbers. This being the case, governments will need to take great care to assure that the infectious diseases which predominantly affect children and the poor are not neglected in the face of resource demands placed in large measure by the more affluent."

¹¹ Preston (1984) makes this point in explaining the shift in public spending from the young to the old in the United States. This description of low and high income groups is based on lifetime income. In terms of current income, parents of young children and older age groups are both at relatively low points on their age-earnings profiles, while middle-age adults are at relatively high points. However, the current income and asset situation of the parents is probably worst of all since older people with high lifetime incomes have at least had the opportunity to save.

reducing mortality will not be maintained in the future in many developing countries.

These arguments are developed in further detail below.

The Correlation Between Mortality and Poverty

The most obvious success of the state in reducing mortality in developing countries has come via programs based on new technologies, programs to immunize people and to control malaria and other endemic diseases. In some cases (e.g., malaria control), these programs provided "public goods" that were automatically available to all. In other cases (e.g., immunizations), they provided "quasi-public goods" that were ostensibly available to all but, in fact, had a large private component that was rationed to the people (typically middle and upper class) who were most likely to perceive and capture these benefits. This was the easiest clientele to reach and serve, hence such expenditures bore a high rate of return, as well as strong political support.

Further mortality declines will be much harder to achieve; they will depend much more than in the past on behavioral changes, particularly among people who are the most resistant to such change -- i.e., the poor and uneducated -- and on public expenditures specifically targeted toward these groups.¹² Moreover, these are the politically disenfranchised groups in many societies. Thus, such policies will be costlier, will bear a lower rate of return and, for political economy reasons, are unlikely to be adopted.

What is the evidence that further mortality declines will be harder to achieve -- because they will have to reach the poor? First, within developing countries, the differentials in mortality associated with income and other measures of socioeconomic status have persisted, even where overall

¹² Hill and Pebley (1988) report that over the past 25 years, there has not been stagnation in the pace of mortality decline. However, the pace of mortality decline has been markedly lower in Africa than in other regions; this was true even before the economic crisis of the 1980s. Mosley et al. (1990) note the difficulty in Africa of reducing mortality, where reductions "from diarrhea and acute respiratory infections will require increased food production, environmental improvements, and behavioral changes, along with improvements in the efficiency and effectiveness of the health system." (p. 350)

mortality has fallen substantially. In Brazil, deaths from infectious and parasitic diseases have declined drastically. These accounted for 45% of all deaths in 1930 but only 11% in 1980.¹³ Other causes of death, however, are highly concentrated among the poor. Infant mortality rates among the rural poor in the northeast are two to three times higher than rates in the wealthier more urbanized south. For eight developing countries where households were surveyed in the mid-1980s, infant mortality among mothers with no education was two to three times higher than among mothers with secondary education and three to six times higher than among mothers with more than secondary education. (Mosley et al., 1990) These continuing differences suggest that progress in reducing mortality among the very poor and uneducated requires new, and probably more expensive, initiatives than those that succeeded in reducing aggregate mortality in the past.

Second is a difference in the nature of diseases that kill people between developing countries today and developed countries when they were at similar overall mortality levels. For example, mortality from diarrhea in the developing world is two to three times as high as it was in the West when overall mortality levels were similar, in large part because prevalence of other diseases has been reduced by technological interventions (see Figure 1). Diarrhea is a disease of the poor; it is found along with, and contributes to, malnutrition and is caused by lack of access to clean water, simple health services, and basic education. To date, diarrhea has been relatively impervious to the programs and technologies that have reduced other causes of mortality. Some hope that the "new technology" of oral rehydration therapy (ORT) can reduce mortality due to diarrhea, but use of ORT itself requires change in the behavior of mothers and other caretakers. Moreover, it is not clear that repeated handling of diarrhea through ORT actually reduces

¹³ Briscoe, 1990.

mortality in environments in which infants are likely to die from other diseases of poverty.¹⁴

Third is evidence across countries of continuing huge disparities in disease risks, including risk of chronic disease, that are also clearly associated with overall differences in income, education, and the effectiveness of public health infrastructure. For example, the annual risk of infection from tuberculosis is 50 to 200 times greater in developing compared to developed countries (Mosley et al., 1990).

Reductions in mortality will continue in developing countries at a moderate rate, assuming further increases in educational opportunities, especially those for women, and in family income. But the dramatic declines in mortality of the past are unlikely -- unless public expenditures are concentrated much more heavily on the poor, ensuring delivery of good quality personal health services. Of critical importance are family planning, nutritional supplementation for children, prenatal and obstetrical care, clean water and sanitation, and the correct use of a small number of effective drugs (against respiratory infections, tuberculosis, and malaria). But for such services to be effective, they must not only be readily available; they must be sought, understood and voluntarily used by their clientele. Such behavioral change will take place only if the time and money costs of health services to the poor decline and/or if they receive information that changes their underlying tastes and choices.

The time and money costs will decline only if government targets its health spending to the poor, making basic health services easily accessible in the rural areas and urban neighborhoods where they are concentrated. For the political economy reasons given above, that appears unlikely. Similarly, it will be difficult to inform the poor and change their health habits (e.g., concerning nutrition, sanitation and drug regimes to handle tuberculosis) unless their educational level increases, and this too requires a heavy and unlikely targeting of public (educational) expenditures to the poor. Indeed,

¹⁴ Mosley and Chen, 1984.

if the poor had access to substantially improved and heavily subsidized health, education, water and sanitation facilities, this would drastically improve their mortality rates and therefore the overall mortality rates of their countries, but it would also imply that a drastic redistribution of real income and utility had taken place. In this sense, continued high rates of health improvement and income redistribution go hand-in-hand -- and both will be opposed by powerful groups intent on maintaining the distributional status quo.

The Aging of the Population and its Diseases

The aging of the population in developing countries, a result of fertility declines over the last two decades and the falling death rates, means that the prevalence of such chronic "adult" diseases as cancer, hypertension, and heart disease (in comparison to parasitic diseases and childhood infectious and diarrheal diseases) is increasing. The number of people over age 65 in developing countries will more than double between 1985 and 2015. By the year 2025, this elderly group will exceed 10 percent of the population in many developing countries, a proportion close to that in the United States today.¹⁵

Brazil provides a telling example of the effects of past improvements in health technology and future changes in demographic structure on the pattern of disease. In 1950 heart disease, stroke, cancer, and accidents accounted for 20 percent of deaths there; in 1980 they accounted for about 50 percent. The increase in their relative contribution over the period was due largely to a decline in the proportion of deaths caused by infectious and parasitic disease. However, the changing age structure means that from now on their prevalence is likely to rise as the proportion of the elderly in the population increases. Age structure changes alone imply a 60 percent increase in deaths due to these diseases from 1980 to 2020.¹⁶

¹⁵ Mosley et al., 1990 (Table 1) and World Bank, 1991.

¹⁶ Briscoe, 1990.

Increases in age-specific death rates from some of these chronic diseases will further change epidemiological patterns. Age-specific death rates are likely to rise because of increasing exposure to such risks as smoking, poor diet, and urban pollution. For example, increases in tobacco consumption in the developing world over the last forty years are likely to cause increases in the incidence of lung cancer comparable to the large increases experienced in Great Britain in the 1960s and 1970s and in the United States more recently (in both places the peak has already been passed).¹⁷

These changing demographic and epidemiological patterns will put new financial pressure on health systems in developing countries. By 1980 in Brazil, the allocation of public health resources for curative care had increased to 85 percent of all spending (from 36 percent in 1965) and the treatment of patients with heart disease accounted for an estimated 25 percent of all in-patient costs. Per capita health expenditures on persons over 60 were 3.5 times greater than the average for the population.¹⁸

Unfortunately, continuing increases in spending on hospital services for the care of chronic disease, while very expensive, will have little impact on the high death rates in developing countries among the poor, many of whom do not receive these services.¹⁹ The estimated cost (per

¹⁷ On the expected rise in lung cancer in developing countries, see Jamison and Mosley, 1991.

¹⁸ The cost burden could also rise because of the spread of AIDS, especially in Africa. The cost of treating AIDS patients in a typical African country could be as high as 10 percent of its current spending on health, even using what are modest estimates of current spending per patient on care (compared, for example, with spending in the United States). See Over, 1988.

¹⁹ It is worth clarifying at this point that hospital care need not be costly, and even when costly, is not necessarily cost-ineffective. Small hospitals (say, of 50 beds or fewer) can be a critical part of an effective overall health system in which consumers can count on referral to higher levels of the system. In general in this text, however, the term hospital care refers to hospitals at the tertiary level, i.e. facilities offering specialized and relatively high-cost services. Even these may be a necessary part of an overall system that is cost-effective, in the sense of providing the full range of services society desires at minimum costs.

discounted healthy life years gained, DHLV) for such services as maternal and child health care, immunization, Vitamin A supplementation, anti-smoking campaigns and short-course therapy for tuberculosis is \$50 to \$150; the estimated cost per life saved through curative treatment, e.g. at the extreme for coronary bypass surgery and hospital management of lung and stomach cancers, is over \$1,000.²⁰ The latter costs are likely to rise still higher because of continuing pressure to use high-cost technologies, such as open heart surgery, organ transplants and kidney dialysis.

Thus, the marginal cost of reducing mortality would appear to be much lower if societies concentrated on diseases of the young (and the poor), and the marginal benefit, in terms of years of life expectancy added, would be much higher; hence such an allocation would seem to be efficient by these criteria. However, political pressures from influential groups have led most societies to spend disproportionately on diseases of adults, particularly curative hospital care, as described in detail in Section III. The problem is exacerbated because the young come disproportionately from lower income groups and the old from middle and upper income groups; the problem is currently being experienced in developed countries as well. But its consequences are (and will be) even more marked in developing countries, where income and health disparities are greater. The argument of Section I suggests that, unless funding mechanisms change, the battle will be won by the wealthier, older groups whose rapidly accelerating health care costs will use up public resources that could more productively, and equitably, be spent on the younger and poorer members of society.

The Endogeneity of Medical Research

This argument is strengthened if we ask: Why are expensive high technology procedures aimed disproportionately at curing diseases of the old? We believe that the allocation of research and developmental resources in this direction is not accidental. Instead, we believe that the allocation process

²⁰ Jamison and Mosley, 1991. For a similar comparison using cost per life saved, see Akin, Birdsall, and de Ferranti, 1987.

within the medical research arena is itself endogenous, governed by the same political economy forces described above with regard to service delivery.

A large share of medical research is carried on by pharmaceutical and other private companies in industrial countries, with the object of patenting and selling the life-prolonging drugs and equipment that they develop. The generous health insurance coverage received by the old, in part because of their political power, combined with the rapidly aging population profile in these countries, assures these companies that they will have a ready market for their new products. On the other hand, the proportion of children in the population is declining, and they come disproportionately from low income families who are less likely to have health insurance or to use it if they have it. Therefore, companies in developed countries have less incentive to direct their research efforts toward children than toward old people. As a result, the developing countries, which utilize the new products and methods that emerge from this process, are faced with expensive medical technologies aimed at prolonging the life of the old rather than the young, and also with political pressures from the influential older groups in society for public spending to make these technologies accessible to them.

Other Reasons for Pessimism

Other reasons for pessimism include increased fiscal pressures on the government, leading it to divert expenditures from health care; political pressures from workers that often cause these cuts to be made in inefficient ways; and cost escalation in health care which diminish the productivity of the remaining expenditures, *ceteris paribus*.

The expenditure of central governments in developing countries rose dramatically from 5 percent of the gross national product (GNP) in 1945 to almost 20 percent in the early 1970s. It has continued to rise since then, though more slowly, and in 1985 was about 22 percent of GNP.²¹ Excluding expenditures on social security (which are higher in industrial countries) the

²¹ World Bank, 1988b.

share of the public sector in GNP in developing countries now exceeds that in industrial countries. In general, public expenditures have risen faster than revenues, so that annual deficits have increased from less than 3 percent to over 4 percent of GNP since the early 1970s.²²

The growing deficits do not bode well for spending on health or on education -- which has potentially positive effects on health in addition to its other benefits. Between the early 1970s and 1985, the share of central government budgets in developing countries going to health fell from 7 to 4 percent; the share going to education fell from 14 to 10 percent.²³ In some countries, particularly in Africa, the falling shares translated into real overall declines and even larger declines on a per capita basis. Though state and local governments may have taken up some of the slack, the dominance of the central government in most of the developing world means that expenditures of other governmental levels are not likely to have compensated.

Fiscal pressures in the 1980s have also contributed to a reduction in the efficiency of government spending on health. Though in the long run the public sector may react to reduced resources for health by altering its mix of services, the short run reaction has been to maintain the product mix and protect spending on personnel while cutting expenditures on nonpersonnel operating costs, including drugs, fuel for vehicles, and maintenance of physical plant and equipment.²⁴ People are not easily laid off from public service jobs. Moreover, scarce foreign exchange is critical to the purchase of drugs, fuel, and equipment but not to the payment of wages. Because the nonpersonnel inputs are usually a small portion of total costs (less than 20 percent), they must be cut drastically to reduce total spending by a

²² Ibid.

²³ Ibid.

²⁴ See Akin, Birdsall, and de Ferranti, 1987.

relatively modest amount. The price of a small financial saving is a large drop in the effectiveness of the system as a whole.

Finally, these problems have been exacerbated by the extension of health insurance without adequate cost containment measures, in many countries. For example, in Brazil the system of automatic reimbursement by the public sector insurer to charges of private providers has fueled the rapid growth of prices and spending on curative care, leaving fewer public resources than otherwise to be spent on more productive basic health services that are not covered by insurance.

All of these forces lead us to conclude that governments will simply not perform as effectively in the future as they have in the past, that this is due in part to growing tensions between the health needs of rich and poor, old and young, in the face of increasingly constricted state resources, and that a radical restructuring of public-private roles may simultaneously improve equity, efficiency, and health outcomes.

III. Examples -- and the Privatization Solution

This section provides examples of our assertions above that allocations within the health sector often disregard the benevolent prescriptions of welfare theory and instead fulfill the more pessimistic predictions of public choice theory. The frequent designation of health services as "externality-generating goods" or merit goods for lower income groups has provided justification for government intervention along classic welfare theory lines. Our examples suggest that once this intervention begins, ostensibly to correct for market imperfections, to improve health outcomes and to benefit poor consumers, more influential consumer and producer groups are often able to divert resources to the costly overprovision of services that predominantly benefit upper income groups and have a much lower social rate of return. The influential groups are typically urban, older, and require costly, curative treatments. Thus these allocations are both inefficient and inequitable.

Second, we show how a shift of financing, particularly hospital financing, from public to private sources could alleviate this pressure on public resources, thereby permitting reallocations that increase equity and efficiency. Finally, potential pitfalls of these "privatization" policies are considered, as well as ways of guarding against the pitfalls.

The efficiency and equity criteria discussed in Section I and used in this section deal mainly with the question of who finances quasi-public services. Another set of efficiency considerations deals with the question of who produces these services and how much private choice and public controls are involved. (For the distinction and connections between these issues see Birdsall, 1992 and James, 1990.) Below, the focus is on the benefits of shifting some of the financing of quasi-public services to the private sector, irrespective of whether the private or public sector manages and provides the service.²⁵

Examples of Public Health Spending that is Both Inefficient and Inequitable

As discussed in Section II, efficiency criteria would dictate government expenditures for such programs as immunizations (generating externalities), improved water supply and sanitation (a public good), monitoring minimum standards for pharmaceuticals and pesticides, and generating publicity about lifestyles that promote good health, (such as anti-smoking, and pro-nutrition campaigns) to help consumers make better-informed utility-maximizing decisions (Birdsall, 1989). The financing of basic medical services to low income groups and to rural regions that cannot support a private competitive market in medical services is also warranted if people care about the health of others and wish to reduce the overall incidence of illness and mortality. Maternal and child health programs are particularly important examples of the latter since these affect the health of entire

²⁵ This also abstracts from the possible links between financing and provision that can arise in the real world for institutional or political economy reasons (e.g., the amount raised via user charges may be greater if the provider retains control over the resources, private provision with partial public subsidy may be more sustainable politically than public provision with partial user charges, and public regulations may accompany public subsidies).

generations, in which there may be a large societal interest. Because they have public good characteristics, all the above programs are not likely to be provided by the private market; hence they are a logical candidate for public funding.

We have argued that these basic services and informational programs would raise health standards and reduce mortality in the most cost effective way.²⁶ They would most help the poor, where mortality loss is currently highest. They would also help the young, where potential gain in life expectancy is the greatest. On both efficiency and equity grounds, these are the programs that merit public spending.

However, in many countries we observe relatively little public health money going to these cost-effective programs. Instead, a large proportion of public health budgets is spent on hospitals, usually located in urban areas, even in countries where the vast majority of the population lives in rural areas and suffers from high mortality rates caused by diseases that need not be treated in hospitals. In virtually all developing countries, the percentage of total health expenditure for curative care is between 70 and 85 percent, leaving only 15 to 30 percent for spending on preventive care and community services. This imbalance also exists in developed countries, but the disparity between population profile (many children, largely rural) and spending profile (on diseases of adults and old people in cities) is greater in developing countries.

More specifically, in Bangladesh in 1986 hospitals consumed over 80% of recurrent public health spending. In Brazil in 1982, 70% of public health funds was spent on reimbursement for physician and hospital care, including expensive high technology procedures (kidney dialysis, coronary bypass, Caesarian sections). In Zimbabwe, which has tried to make its health sector more egalitarian, two-thirds of Ministry of Health expenditures are for

²⁶ See Birdsall, 1989 and Akin, Birdsall and de Ferranti, 1987 for comparisons of the relative cost-effectiveness of these vs. hospital services in reducing mortality.

hospital services and 60% of these expenditures was absorbed by four hospitals in Harare. In Tanzania, which has made a special effort to improve rural clinics, 60% of the recurrent health budget was nevertheless spent on hospitals in 1983-84.²⁷

Typically, these hospitals are located in urban centers of population, they serve the middle and upper classes, and superior public hospitals (e.g., armed forces or social security hospitals) serve the elites. Most of their patients are middle aged or older. Since hospital services get parcelled out to their patients, they have a large private benefit component and could therefore be financed privately. But once government undertakes the task of financing hospitals, as it has in many countries, this crowds out private resources and absorbs a large share of the public budget, because of the high cost of modern medical technology.

How Shifting to Private Spending Could Help

Suppose instead that many hospitals were turned over to private bodies, with fees to be covered by mandated health insurance (which might be administered by government but financed by premiums paid by the beneficiaries or their employers). Along similar lines, user charges could be instituted at the remaining public facilities and use of competitive privately managed services might improve their effectiveness. Public funds would then be freed up to provide the externality-generating health programs listed above and also to subsidize health insurance for the poor. We contend that these changes would bring about a net improvement in health indicators, far beyond that which would be experienced under current funding mechanisms.

Examples of countries with small experiments along these lines are Zambia, where the university hospital at Lusaka is being turned into a parastatal that charges clients for services (the hope is that public funds will be released to finance new maternal, child health and family planning services); Zimbabwe, where a fee has been introduced for patients who bypass

²⁷ These examples are from selected years in the 1980s from Griffin, 1989 and World Bank, 1988b.

lower levels of the health system and those who want a private hospital room; and Gambia, where fees charged for drugs are turned over to village development councils for further health improvement (Akin, Birdsall and de Ferranti, 1987). In Jamaica, costs declined when housekeeping and food services at public hospitals were contracted out to private firms (Griffin, 1989 and Lewis and Parker, 1991). In Chile, increased reliance on private hospitals during the past decade was accompanied by a shift toward less expensive medical personnel (more nurses and midwives, fewer doctors), by structural changes to improve incentives, and by the targeting of government services toward primary health care and other services for the poor (Griffin, 1989).

Moreover, to the extent that reliance on government funds has limited hospital expansion, access to private funds (including insurance reimbursement) may increase the supply of hospital services and thereby improve overall access to health services. In the Philippines in the 1970s, following a policy change allowing private expenditures, the greatest expansion of hospitals occurred in the poorest served regions (Griffin, 1989).

Pitfalls and Problems

In any privatization program, considerable thought and research must be given to potential pitfalls and methods of guarding against these pitfalls. For example, private hospitals are sometimes accused of taking actions designed to maximize their profits, at the expense of ill-informed clients; they may downgrade quality, refuse to carry out important but costly services, recommend an excessive number of lucrative surgical and laboratory procedures, and deny admissions to indigent patients. Possible remedies to these problems include regulations that require hospitals to provide crucial services and admit poor patients (but monitoring may be difficult); self-regulation and peer review to safeguard quality and reduce excessive surgery (but self-dealing, logrolling and conflict of interest are pitfalls here); reliance on nonprofit rather than for-profit hospitals (but there is little evidence to prove that nonprofits are more trustworthy than for-profits,

although some economic theories of nonprofits argue that this is the case); and mandatory insurance, subsidized for the poor, so no one is left out of the system (but this introduces moral hazard problems, discussed below).

Another pitfall to avoid is the possibility that public funds will not be reallocated in an efficient, equitable way, even after private financing and service delivery is introduced. For example, in Brazil about half of health care expenditures are private, many private hospitals exist (70%-80% of the total), and health maintenance organizations (HMOs) privately funded by workers and their employers are a rapidly growing urban phenomenon, demonstrating the viability of the market in health. Nevertheless, most of the public health funds are spent on public hospital procedures with a large private benefit component (or on public reimbursement of private hospitals that provide private benefits), for upper income groups (World Bank, 1988a).

In general the availability of medical insurance plays a key role in all these scenarios that shift responsibility for hospital care to the private sector. Insurance, of course, raises the problem of moral hazard, hence overspending, which must be addressed or the efficiency gains just described will be reduced and perhaps eliminated. Indeed, uncontrolled private hospitals together with mandatory medical insurance may be the worst combination of all from this point of view (Birdsall, 1989). Procedures for dealing with this problem are: requiring co-insurance (e.g., an annual deductible and/or a co-payment for each treatment), exempting small costs from coverage, paying hospitals on the basis of diagnosis rather than procedures, reviewing recommendations for surgery and unusually high surgical rates, and structuring in competition among insurance carriers -- in general, greater reliance on market incentives to contain costs. At the same time, it must be recognized that cost escalation in the health field is a problem whose first-best solution has not yet been found in any country. Perhaps all that is possible is a second-best solution, in which the burden does not fall disproportionately on the public treasury or on the lowest income groups in society.

Conclusion and Political Strategies

Our policy recommendation is thus for a reallocation of public funds to public goods and to quasi-public goods targeted to lower income groups, together with a shift of responsibility for "private" services to the private sector. The shift involves expanded financial and producing responsibilities for the private sector, combined with a reallocation of government funds within the public sector. For the reasons given above, this holds out the promise of increasing both efficiency (i.e., greater improvement in health indicators at lower cost) and equity (i.e., greater health gains for the poor). The central premise of this paper is that in the contemporary health context, equity is a necessary pre-condition for efficiency, and a reassignment of public and private roles is one of the few economically and politically feasible ways to accomplish both goals and continue into the future the rapid mortality decline and health improvement that developing countries have experienced in the past.

In the absence of political change, however, this shift will not be easy to accomplish, since the current "misbehavior" of government (inefficiently financing private health and other services that benefit influential groups) has come about precisely because people with political power gain therefrom and will resist relinquishing this source of real income. The current situation is the outcome of a political process, and possibly a political equilibrium, in which each group has tried to maximize the utility it can extract from the system: the pay-offs for the rich are superior hospitals while the poor get low quality and limited rural health services. If we now disturb or constrain one element of this equilibrium, other elements will change as a reaction, so that the end result may be quite different from what was sought with the initial step.

For example, suppose the upper classes feel their benefits have declined when a shift is made from funding private to public goods by government (e.g. from financing medical operations to financing malaria control and immunization campaigns); they may then lobby successfully for a

corresponding tax cut, so that government has less to spend, or for a shift in the structure of taxes, so that relatively more is collected from the lower classes. (Tax cuts in the Reagan years in the U.S. could thus be viewed, in part, as a reaction to the build up of poverty programs in the 1960s and early 1970s). Or, elites may try to recapture their higher real income in other ways, e.g. by increasing the level of bribery and corruption elsewhere in the economy. Ultimately, large changes in the distribution of benefits from government spending will only occur if there is a corresponding change in the distribution of political power.²⁸

While the above comments sound pessimistic, there are a few sources of hope. First, as discussed in Section I, many inefficient and inequitable policies are stimulated and perpetuated by imperfect information. The "losers" do not always know how much they are losing and the "winners" incur costs to hide information from them. Spreading more accurate information may thus in itself alter the feasible political equilibrium. Along similar lines, politicians do not know people's preferences or the intensity of these preferences with certainty, and if their perceptions of preferences are changed, the policies they deem politically optimal will also change.

Second, the current fiscal crisis in many countries may make politicians more willing to consider cost-effective reallocations, even if these hurt some of their supporters. The fiscal crisis may also indirectly

²⁸ For example, as the urban working class grew in size and became enfranchised in nineteenth and twentieth century Europe, they also acquired greater power to influence government policies. Enfranchisement of black voters in the U.S. South, which accelerated with the Civil Rights Act of 1964, has increased the access of blacks to the benefits of state-sponsored social programs. Obviously, changes in the internal power structure are very slow and difficult to achieve. On the other hand, a temporary change in power can sometimes be multiplied and become permanent if it is used to alter the long run rules of the game via constitutional change, precedent-setting judicial interpretations, irreversible extensions of voting rights, reapportionment, etc.

reduce subsidies to the rich by leading them to abandon the public systems as these deteriorate in quality.²⁹

Third, if service delivery becomes more efficient, as a consequence of the privatization policies discussed in this paper, this will free up some resources that could be used (at least theoretically) to make everyone better off. If the surplus is distributed in such a way that there are more winners than losers, including some influential winners, this could offset political pressure to once again expand the public sector inefficiently.

Finally, the power structure may be changed through the intervention of external actors such as local and international NGOs (non-profit non governmental organizations), the World Bank and other aid agencies -- although the scope for action here is obviously limited. External actors are probably most effective over the long run when they provide new information and new ways of looking at old problems.

²⁹ For example, the fiscal crisis in Mexico appears to have contributed to the deterioration of the public university system and the evolution of financially autonomous elite private institutions; these now cater to the rich and reduce public spending on high-income university students.

REFERENCES

- Akin, J., N. Birdsall and D. de Ferranti, Financing Health in Developing Countries: An Agenda for Reform, World Bank: Washington, D.C., 1987.
- Becker, G.S. "A Theory of Competition Among Pressure Groups for Political Influence," Quarterly Journal of Economics, 98, 1983, pp.371-400.
- Behrman, J. and N. Birdsall, "The Equity-Productivity Tradeoff: Public School Resources in Brazil," European Economic Review, 1988.
- Birdsall, N., "Pragmatism, Robin Hood and Other Themes: Good Government and Social Well-Being in Developing Countries," Social Dimensions of Health Transitions: An International Perspective, eds. L.C. Chen, A.M. Kleinman, and N.C. Ware, New York: Oxford University Press, 1992.
- Birdsall, N. "Thoughts on Good Health and Good Government," Daedalus 118:1 (Winter 1989), 89-124.
- Borcherding, T. "The Causes of Government Expenditure Growth: A Survey of the U.S. Evidence," Journal of Public Economics, 28, 1985, pp.359-382.
- Borcherding, T.E., W.W. Pommerehne, and F. Schneider, "Comparing the Efficiency of Private and Public Production: The Evidence from Five Countries," Zeitschrift fur National o Ekonomie/Journal of Economics, sup. 2, 1983, pp.127-156.
- Bourgignon, F. "Optimal Poverty Reduction, Adjustment and Growth: An Applied Framework," World Bank draft report, 1989.
- Briscoe, J. "Brazil: The New Challenge of Adult Health," World Bank Country Study, 1990.
- Buchanan, J., Tollinson and G. Tullock, Toward a Theory of a Rent-Seeking Society, Texas A&M Univ. Press, 1980.
- Buchanan, J.M. Fiscal Institutions and Individual Choice, Chapel Hill: University of North Carolina Press, 1967.
- Demsetz, H. "The Growth of Government," in de Vries Lectures, no. 4, Economic, Legal and Political Dimensions of Competition, Amsterdam: North Holland, 1982.
- Feachem, R.G.A., T. Kjellstrom, C.J.L. Murray, M. Over, M.A. Phillips, eds., The Health of Adults in the Developing World, New York: Oxford University Press, forthcoming.
- Fiorina, M. and R.G. Noll, "Voters, Bureaucrats and Government Growth: A Rational Choice Perspective on the Growth of Bureaucracy," Journal of Public Economics, 9, 1978, pp.239-254.
- Gertler, P., L. Loray and W. Sanderson, "Are User Fees Regressive?" The Welfare Implications of Health Care Financing Proposals in Peru," Journal of Econometrics, 36, 67-88, 1987.
- Gertler, P. and J. van der Gaag, The Willingness-to-Pay for Medical Care: Evidence from Two Developing Countries, World Bank, book manuscript, 1988.
- Griffin, C., "Strengthening Health Services in Developing Countries Through the Private Sector," World Bank draft report, 1989.

- Hill, K. and A. Pebley. "Levels, trends, and patterns of child mortality in the developing world," presented at seminar "Child Survival Programs: Issues for the 1990s," 21-22 November, Johns Hopkins University School of Hygiene and Public Health, 1988.
- Hochman, H.M. and J.D. Rogers, "Pareto Optimal Redistribution," American Economic Review, 59, 1969, pp.542-557.
- James, E., "Public Policies Toward Private Education," International Journal of Educational Research, 1990.
- Jamison, D.T. and W.H. Mosley, "Disease Control Priorities in Developing Countries: Health Policy Responses to Epidemiological Change," American Journal of Public Health, 81:1, (January 1991), pp.15-22.
- Jimenez, E., Pricing Policy in the Social Sectors: Cost Recovery for Health and Education in Developing Countries. Baltimore, MD, Johns Hopkins University Press. World Bank mimeo, 1987.
- Krueger, A., "The Political Economy of the Rent-Seeking Society," American Economic Review, 64, 3 (June 1974), 291-303.
- Lewis, M. and Parker, C., "Policy and Implementation of User Fees in Jamaican Public Hospitals," Health Policy Research, 18, 1881, 57-85.
- Meade, J.E., Efficiency, Equality and Ownership of Property, London: Allen and Unwin, 1964.
- Meltzer, A.H. and S.F. Richard, "Tests of Rational Theory of the Size of Government," Journal of Political Economy, 89, 1981, pp.914-927.
- Meltzer, A.H. and S.F. Richard, "Why Government Grows (and Grows) in a Democracy," Public Interest, 52, 1978, pp.111-118.
- Mosley, W.H. and L.C. Chen, "Child Survival: Strategies for Research," Population and Development Review (a supplement to volume 10), 1984.
- Mosley, W.H., D.T. Jamison, and D.A. Henderson, "The Health Sector in Developing Countries: Problems for the 1990s and Beyond," Annual Review of Public Health, 11, (1990), pp.335-58.
- Mueller, D.C. Public Choice, New York: Cambridge University Press, 1979.
- Musgrave, R. A., The Theory of Public Finance: A Study in Political Economy, New York: McGraw Hill, 1959.
- Musgrove, P., "E Quanto Mas Vale Prevenir que Curar?" Economia (Pontifica Universidade Catolica de Peru), 1959.
- Niskanen, W.A., Bureaucracy and Representative Government, Chicago: Aldine-Atherton, 1971.
- Nozick, R., Anarchy, State and Utopia, Oxford: Basil Blackwell, 1974.
- Over, M., "Testimony to the United States Presidential Commission on the Human Immunodeficiency Virus Epidemic," World Bank, 1988.
- Peltzman, S., "The Growth of Government," Journal of Law and Economics, 23, 1980, pp.209-287.
- Peltzman, S., "Toward a More General Theory of Regulation," The Journal of Law and Economics, XIX, 1976, 211-240.

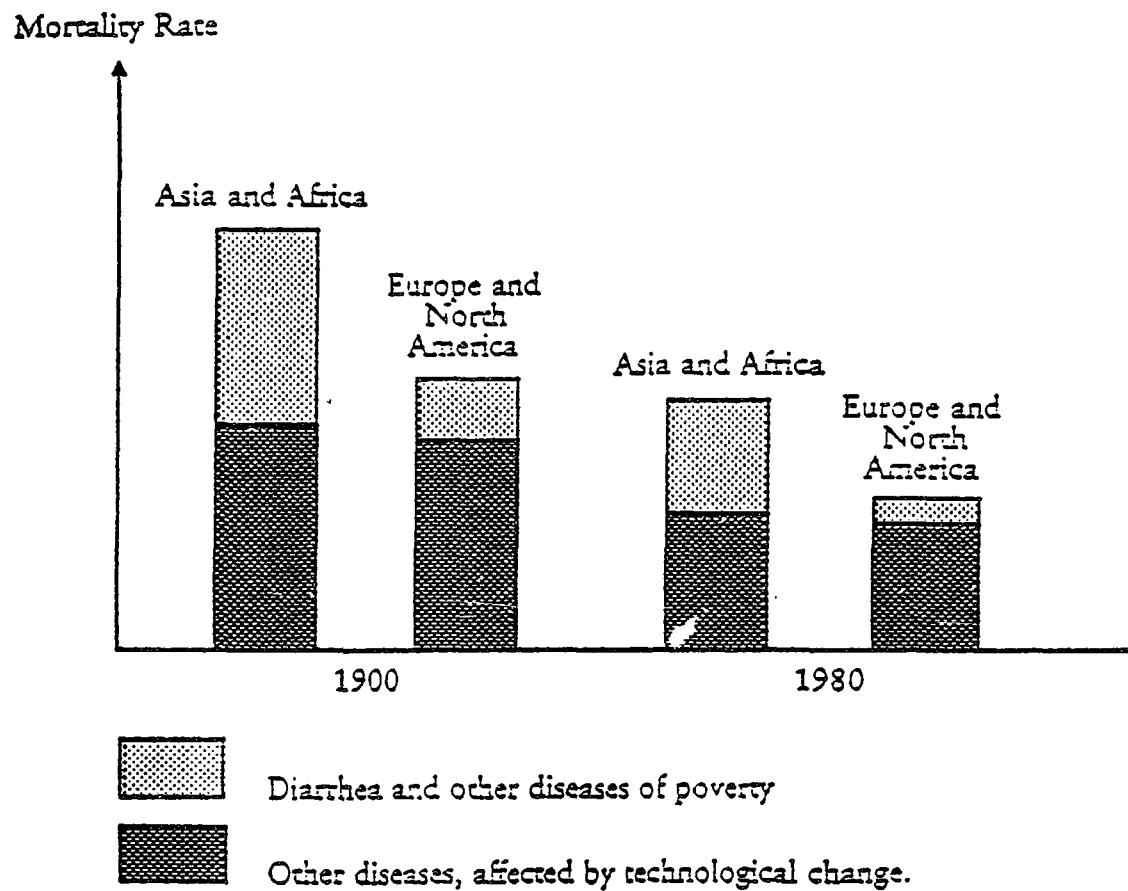
- Pommerehne, W.W. and F. Schneider, "Fiscal Illusions, Political Institutions, and Local Public Spending," Kyklos, 31, 1978, pp.381-408.
- Preston, S.H., "Children and the Elderly in the U.S.," Scientific American, 251, (December 1984), pp.44-49.
- Rawls, V., A Theory of Justice. Cambridge, MA: Harvard University Press, 1971.
- Romer T., and H. Rosenthal, "Political Resource Allocation, Controlled Agendas and the Status Quo," Public Choice, 33, 1978, pp.27-43.
- Stigler, G. "The Theory of Economic Regulation," Bell Journal of Economics and Management Science, 2, 1971, 3-21.
- Stigler, "Director's Law of Public Income Distribution," Journal of Law and Economics, 13, 1970, pp.1-10.
- United Nations, World Population Prospects: Estimates and Projections as Assessed in 1984, New York: United Nations, 1986.
- Winkler, D., "Efficiency and Equity in Latin American Higher Education," World Bank report, 1988.
- World Bank, Policies for Reform of Health Care, Nutrition and Social Security in Brazil, World Bank Report No. 6741-BR, Washington, D.C., 1988a.
- World Bank, World Development Report, New York: Oxford University Press, 1991.
- World Bank, World Development Report, New York: Oxford University Press, 1988b.
- World Bank, World Development Report, New York: Oxford University Press, 1984.

Table 1. Crude Death Rate and Life Expectancy at Birth,
By Region, 1950-1985

	<u>Crude Death Rate</u> <u>(deaths per 1,000 persons per year)</u>				<u>Life Expectancy at Birth</u> <u>(years)</u>	
	<u>1950</u>	<u>1965</u>	<u>1980</u>	<u>'85-'90</u>	<u>'50-'55</u>	<u>'85-'90</u>
Sub-Saharan Africa	29.3	22.8	17.7	15.3		51.5
Middle East/ North Africa	24.0	18.1	12.6	10.9		59.0
South Asia	28.8	20.6	14.5	12.2	38.9	55.8
East Asia (exc. China)	27.1	16.3	10.5	7.3		67.9
China	27.3	16.0	7.9	6.7	40.8	69.0
Latin Amer./ Caribbean	16.6	11.7	8.5	7.2		66.6
Developing Countries					41.1	59.1
Indust. Countries	10.5	9.6	9.1	9.3	65.8	73.1

Source: Reproduced from Birdsall, 1989: World Bank Development Report (New York: Oxford University Press, 1984), 5; World Bank projections, 1985-1990 (for death rates); and United Nations, World Population Prospects: Estimates and Projections as Assessed in 1984 (New York: United Nations, 1986) (for life expectancies).

Figure 1. Schematic Representation of Changing Causes of Mortality



Source: Reproduced from Birdsall, 1989, based on personal correspondence from John Briscoe.

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